



# MERRAZZO SPECIFICATIONS



**MEDUSA WHITE PORTLAND CEMENT**



# TERRAZZO

with

# MEDUSA

**White Portland Cement**  
**(Plain and Waterproofed)**



## MEDUSA PORTLAND CEMENT COMPANY

1002 ENGINEERS BLDG.

CLEVELAND, OHIO

Sales Offices: New York, N. Y.; Chicago, Ill.; Pittsburgh, Pa.;  
York, Pa.; Cincinnati, Ohio; Grand Rapids, Mich.; Manitowoc,  
Wis.; Toledo, Ohio; Washington, D. C.; Minneapolis, Minn.

*Manufacturers of Medusa Gray Portland Cement  
(Plain and Waterproofed); Medusa Non-Staining White  
Portland Cement (Plain and Waterproofed); Medusa  
Waterproofing (Powder or Paste); Medusa Portland  
Cement Paint, and Medusa Mix—the Masonry Cement.*



Dance Space—Main Dining Room—New Hotel Jefferson, St. Louis, Missouri. Architects, Teich & Sullivan, Chicago, Ill.; Terrazzo work by The Terrazzo Co., Inc., St. Louis, Missouri. Medusa White used in this terrazzo job.

# TERRAZZO

**T**ERRAZZO is made with Portland Cement and colored aggregates, then polished. Although terrazzo, as a construction material, has been used for years, it is still in its infancy. Its use is increasing rapidly because the newer trends in architectural design, featuring in many cases the modern, call for material that lends itself more easily and effectively to the architect's skill and imagination.

Terrazzo is the finest type of flooring that can be made with Portland Cement. Charming and striking effects can be secured by exercising care in the selection of color and the size of the chips, also in choosing the coloring pigments. A part of the increasing popularity of terrazzo is due to the fact that the strength and wearing qualities of this flooring material are unsurpassed. The hardness and density and its polished surface make it extremely easy to clean and to keep clean.

In the past few years terrazzo has been selected for many new uses such as bases, wainscoting, stairs, swimming pools, etc.

## **The Advantages of "Medusa White" in Terrazzo**

Terrazzo can be made with a regular gray cement, but in such cases the background gives a somber, dull effect. Recently there has been a decided preference for the use of Medusa White Cement for terrazzo work. This cement is used in exactly the same way as the regular gray cement in terrazzo. "Medusa White" is a true Portland Cement, meeting and surpassing all requirements of the American Society for Testing Materials for Portland Cement.

"Medusa White" gives a number of decided advantages in terrazzo work that cannot be obtained

by the use of regular gray cement. When used as pure white, it helps to clearly identify the color of the chips, making the terrazzo brighter and more colorful than when gray cement is used. This is clearly illustrated on page 9.

Architects find that by using "Medusa White" with the addition of coloring pigments, they can secure delicate shades as a background for the marble chips in the terrazzo.

The difference in cost of terrazzo made with "Medusa White" and that made with the regular gray cement is very small. When one takes into consideration the more desirable color effects and contrasts that can be secured, this slightly higher cost is well worth while.

## **Range of Color Effects**

When Medusa White Portland Cement is used in terrazzo instead of gray, the architect's selection of marble chips is practically unlimited both as to color and size. This advantage also applies when the "Medusa White" is tinted for the background.

Many architects have gone one step forward in the making of terrazzo with the use of Medusa *Waterproofed* White Portland Cement. This makes the surface of the terrazzo impervious to moisture, hence free from the penetration of dirt. It also makes it easier to clean. From the standpoint of color and wearing qualities, there is no difference between the use of the Medusa White Cement and the Medusa Waterproofed White Cement.

In another part of this book you will find complete specifications for making terrazzo with Medusa White Portland Cement, plain or waterproofed.

# SPECIFICATIONS FOR TERRAZZO

## Methods

Two methods are used in laying terrazzo floors. One is to bond it to the concrete slab and the other to separate it from the structural slab with a thin layer of sand covered with strong paper.

The first method is used where cinder concrete fill is called for. This fill is generally provided for under another heading and should be left  $1\frac{1}{2}$ " below the finished floor (not less). This cinder concrete should be made of six (6) parts of clean cinders, one (1) part sand and one (1) part Portland Cement. Before the terrazzo contractor installs his underbed, he must see that this concrete fill is thoroughly cleaned of plaster dropping, wood chips and other debris, and should be wetted to insure adhesion.

The second method is used in buildings where cracking is anticipated either from settlements, expansion and contraction or vibration. In this case the terrazzo contractor begins his work from the structural floor slab up. This method requires at least a total thickness of three (3) inches. The concrete slab is covered with a thin bed of dry sand over which a sheet of strong paper is laid. Over the paper the underbed is installed as in the first method, except that coarser aggregate can be used in the underbed, such as cinders or grit where its thickness exceeds  $2\frac{1}{2}$ ". When this method is used, the cracks originating in the structural slab do not appear on the surface but terminate at the sand bed.

The underbed for terrazzo, to consist of Portland Cement one (1) part, and sharp screened sand four (4) parts brought to within three-quarters ( $\frac{3}{4}$ ) of an inch of the finished level.

## Brass Strips

Into the setting bed, while still in a semi-plastic state, install brass strips having proper bonding features and with extended projections at side

punched out at the proper depth to insure the thickness of terrazzo specified, of B. & S. Gauge No. ( ) in panels or designs as called for in specifications or as shown on drawings.

## Terrazzo

The terrazzo topping to be not less than three-quarters ( $\frac{3}{4}$ ) of an inch in thickness and shall be of marble aggregates of colors to be selected by the architect.

The aggregate to be composed of such proportions of No. 1, 2, 3 sizes as shall hereafter be determined, samples of which shall be made, in duplicate, for approval by the architect.

## Method

The terrazzo aggregate shall be in the proportions of two hundred pounds of marble to one hundred pounds of Medusa White Portland Cement, mixed dry, and water afterward added to make the mix plastic but not too wet. This must be mixed thoroughly, allowed to stand thirty minutes and then remixed.

## Installation

The mix shall then be placed in the spaces formed by the brass dividing strips and rolled into a compact mass by means of heavy stone or metal rollers until all the superfluous water is extracted, after which it must be hand troweled to an even surface, disclosing the lines of the brass strips on a level with the terrazzo filling.

The finished result to show approximately eighty-five (85) per cent of marble aggregate.

## Curing

Terrazzo shall cure at least six (6) days before grinding. During this period it shall be covered uniformly with one (1) inch of clean, wet sand or

one (1) inch of clean, wet sawdust free from tannic acid and shall be kept wet by sprinkling with clean water at intervals of not more than ten (10) hours.

A strong two-ply kraft paper with asphalt membrane in the center may be used instead of the sand or sawdust; the paper to be reinforced with crossed fibers completely embedded in the asphalt. This paper shall be laid with as few joints as practicable; the joints to be lapped at least three (3) inches and sealed with gummed kraft paper tape or glue as directed by the manufacturer.

## Surfacing

The terrazzo surface shall be machine rubbed, using No. 24 carborundum grit stones for the initial rubbing, after which a light grouting of Medusa White Portland Cement and water shall be applied to the surface, filling all pores, and allowed to remain until the time of final cleaning.

## Cleaning

Floors shall have the grouting coat removed by machine, using a No. 80 carborundum grit, after which they must be washed thoroughly and left in condition acceptable to the architects.

## Special Treatment

Terrazzo floors shall, immediately before the building is occupied, receive a second cleaning and given a color fixing emulsion treatment.

## Warning

The use of acids in the cleaning of terrazzo floors is strictly prohibited.

Washing powders containing alkali should on no account be used in the maintenance of these floors. Use only such cleaning materials as have been approved by The National Terrazzo and Mosaic Association.

## Anti-Slip Floors

Ramped or other surfaces in terrazzo floors, so specified, are to be made anti-slip by the addition of "Norton's Alundum Aggregate," or its equal.

For heavy duty floors, the proportion shall be eight (8) pounds of such aggregate to each square yard, and for light traffic floors six (6) pounds to the square yard, superficial area.

## Terrazzo Base

Where shown on plans or specified, provide a base ( ) inches in height to be coved at floor to ( ) radius, the top to project one-quarter ( $\frac{1}{4}$ ) inch beyond the line of the finished plaster.

*Note:* If base is required without projection at top, specify to be set flush with finished plaster.

Where flush base is specified or shown, same shall have a metal base bead set to a straight and true line to form finish between terrazzo base and plaster above.

Base beads shall be of B. & S. No. ( ) gauge brass.

Base shall be divided into lengths of approximately 4 ft. 0 in. linear, using metal base dividers of B. & S. No. ( ) gauge.

Foundations for base shall be of brick or terra cotta, but if of wood or metal studding the contractor for metal lath shall install a metal lath or wire foundation upon which the terrazzo contractor will spread his setting bed.

The surfacing and finishing of terrazzo base shall be done in all respects as described above for terrazzo floors.

Where base is specified to project beyond the face of the finished plaster, wood guide strips are to be furnished and set by others.

Architect's specifications should state whether terrazzo plinth blocks are required and whether moulded or plain.

## Terrazzo Stairs Plastic Work

Where terrazzo stairs are shown or specified to be built upon a concrete slab, the concrete contractor shall form the rough concrete slab so as to allow two (2) inches from the top of rough concrete to the top of finished terrazzo tread, and one and one-quarter ( $1\frac{1}{4}$ ) inches from face of rough concrete riser to face of finished terrazzo riser.

The rough concrete for stringers and curbs shall be so placed by the concrete contractor as to allow one and one-quarter ( $1\frac{1}{4}$ ) inches for the scratch coat and finished terrazzo.

Where steel stairs are installed and are to be finished with terrazzo, same are to be covered with metal lath securely anchored to steel sub-stairs by the lathing contractor, allowing for terrazzo from two (2) inches to three (3) inches on the tread and one and one-half ( $1\frac{1}{2}$ ) inches on the riser. Platforms to be treated in same manner, allowing not less than three (3) inches for terrazzo and setting bed.

On pan type of stairs where treads only are to be of terrazzo, two and a half ( $2\frac{1}{2}$ ) inches shall be allowed for terrazzo and setting bed.

Pan treads must be reinforced with No. 18 gauge one-inch galvanized mesh. The thickness of terrazzo topping shall be three-quarters ( $\frac{3}{4}$ ) of an inch.

## Terrazzo Treads Precast Work

Treads of stairs shall be precast, reinforced with one-quarter ( $\frac{1}{4}$ ) inch steel rods, two rods to each tread, bed rubbed, grouted and set in Medusa White Portland Cement mortar.

Treads shall be ( ) inches thick with plain (or moulded?) nosings.

## Terrazzo Riser Precast Work

Risers of stairs shall be precast, reinforced with one-quarter ( $\frac{1}{4}$ ) inch steel rods as specified for treads. They shall be one (1) inch in thickness,

bed rubbed, grouted and set in Medusa White Portland Cement mortar.

All precast work shall be manufactured and dry cured before delivery to building for installation.

## Anti-Slip Work

Treads, platforms and landings to be made anti-slip by mixing Norton's Alundum Aggregate with the terrazzo, forty (40) per cent of alundum, sixty (60) per cent of terrazzo. Alundum chips shall be of color to blend with terrazzo.

## Terrazzo Partitions

Metal lath construction to be provided by metal lath contractor as follows: Erect forms of metal studding, placed not over twelve (12) inches center to center, and securely fastened at corners, at walls, and over openings, and well bedded into the floor. This framing to be covered with expanded metal lath galvanized.

Plaster contractor to apply to the metal lath a scratch coat of one (1) part Portland Cement and two (2) parts screened sand.

Upon foundation thus prepared, the terrazzo contractor shall apply his screed coat to within  $\frac{3}{8}$  inch of finish, upon which, the day following, he shall install the terrazzo finish.

The finished thickness of partitions not to exceed two and one-half ( $2\frac{1}{2}$ ) inches.

Terrazzo partitions shall be machine rubbed and brought to a smooth hone finish.

## Terrazzo Wainscots

Plasterer contractor shall prepare, with a plumb, scratch coat of Portland Cement and sand, all surfaces to be finished with terrazzo.

Where wall surfaces are of an absorbent material, the plasterer shall use Medusa Waterproofed Cement with the sand for the scratch coat.

The terrazzo screed and finish shall be applied in the same manner as specified for terrazzo partitions.

Terrazzo wainscot shall finish flush with plaster above or projecting ( ) inch beyond same as shown by plans. Terrazzo wainscots shall be machine rubbed and brought to a smooth hone finish.

*Note:* As the prices of terrazzo aggregates vary materially, it is essential for estimating purposes that kinds of marbles required be specified.

## Mosaics

Marble mosaic shall be prepared in the approved pattern, glued to paper or for inlay work cut to proper shape; set on a prepared bed of one (1) part Portland Cement and four (4) parts clean, sharp sand.

Care must be taken that adjoining sections be accurately fitted together, to the end that the finished product shall present an unbroken and perfect appearance.

After setting has taken place, remove the paper, grout with a mastic of Medusa White Portland Cement to which a small proportion of lime putty has been added, rub down by machine or hand rubbers as requirements dictate; No. 40 grit shall be used for the initial rubbing and No. 80 grit for the final rubbing.

Foundations for marble mosaics shall be brought by mason contractor to within one and one-half ( $1\frac{1}{2}$ ) or two (2) inches of the finished floor level according to the thickness of the marble tesserae selected.

Enamel mosaic shall be prepared on paper in a similar manner to that of marble mosaic and shall be set on a foundation composed of a mixture of one (1) part Medusa White Portland Cement, two (2) parts lime putty, and three (3) parts clean, sharp sand.

Foundation for enamel mosaic work shall be of a good quality mixture of Portland Cement and

screened sand applied to surfaces and given a fine cross scratch by plaster contractor who shall leave a uniform thickness of three-quarters ( $\frac{3}{4}$ ) of an inch to receive the mosaic work.

All mosaic work shall be well grouted; enamel mosaic shall be left natural and marble mosaic shall be rubbed and finished to match approved samples.

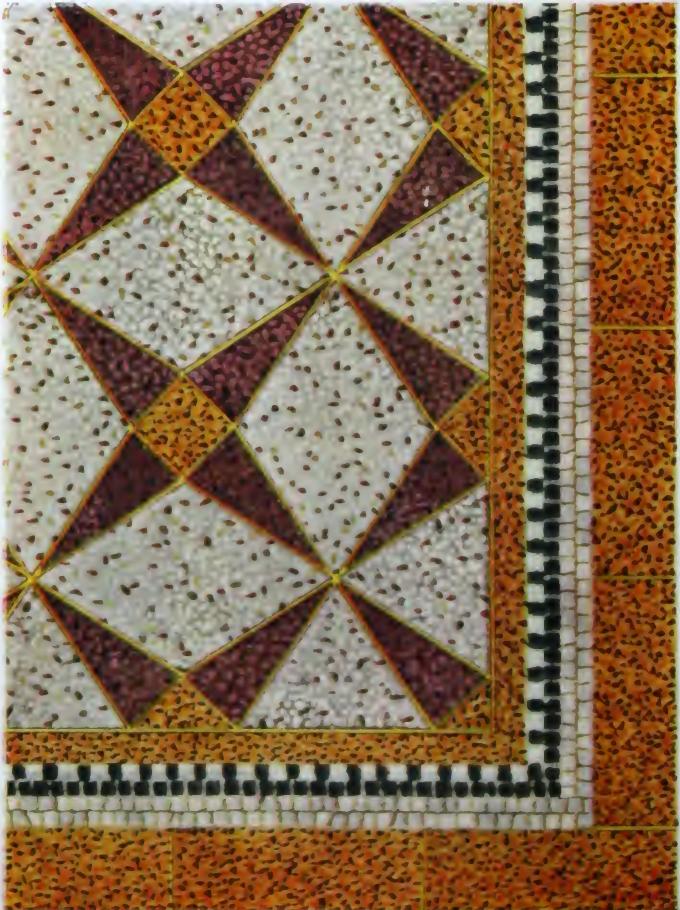
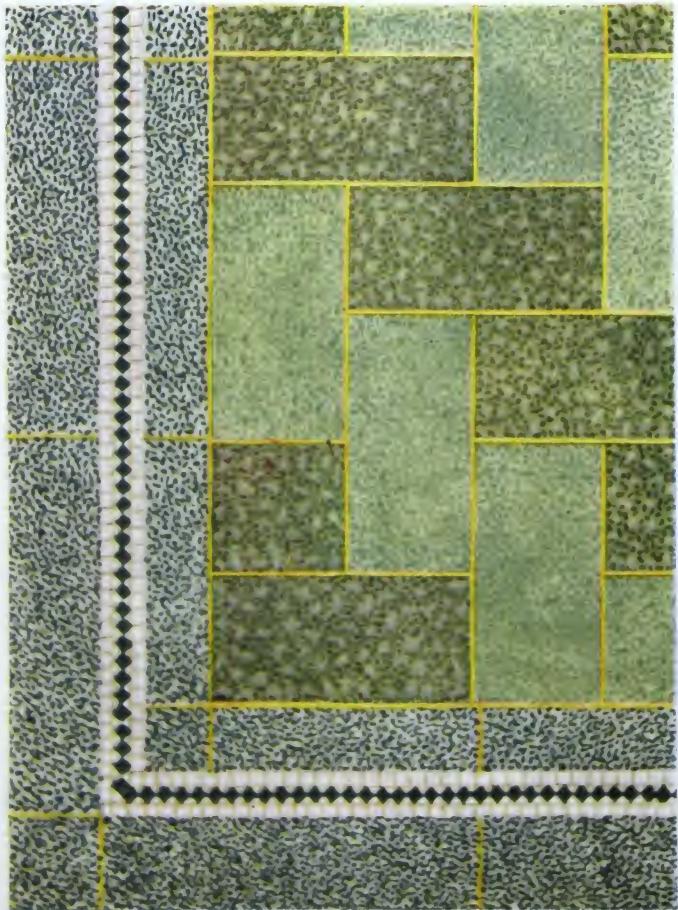
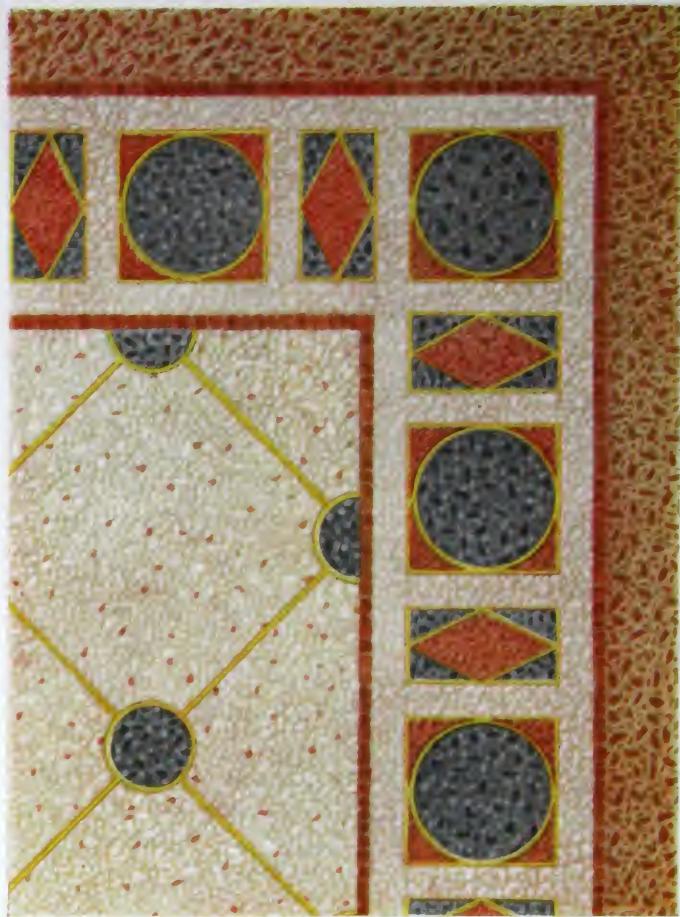
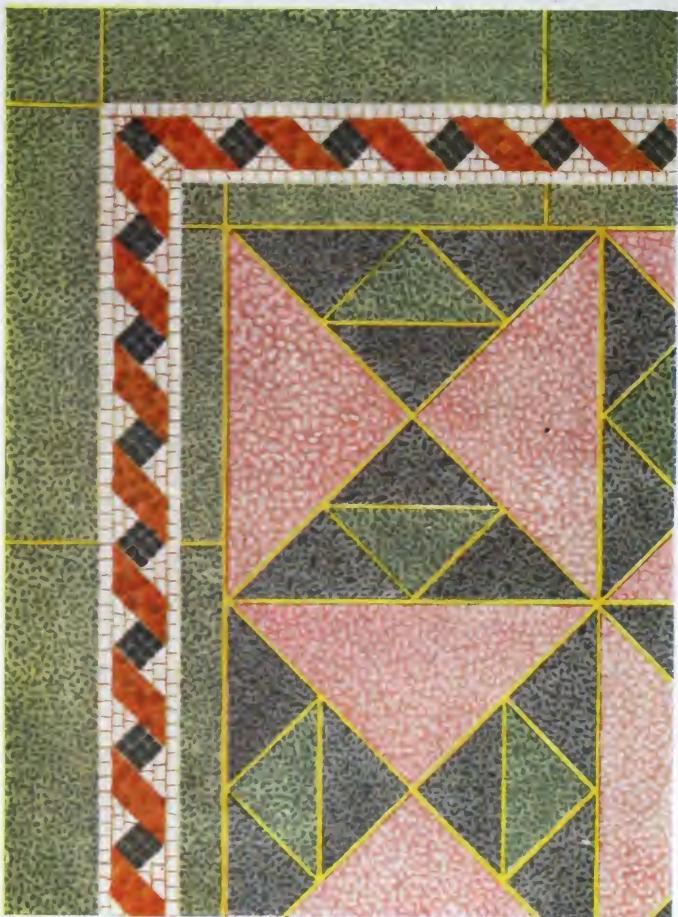
## Colors

Marble granule for terrazzo may be obtained of the following marbles:

Alabama White	Domestic
Georgia White	Domestic
Carrara White	Imported
Nimes White	Imported
Middlebury Cream	Domestic
Botticino (Lt. Tan)	Imported
Yellow Verona	Imported
Red Verona	Imported
Sienna (Lt. Yellow)	Imported
Rouge Antico (Dk. Red)	Imported
Rouge Royal	Imported
Travertine (Roman)	Imported
Travertine (Tracon)	Domestic
Cardiff Green (Dark)	Domestic
Royal Green (Lt.)	Domestic
Gray Tennessee	Domestic
Pink Tennessee (Lt.)	Domestic
Pink Tennessee (Dk.)	Domestic
Cedar Tennessee (Dk. Brn.)	Domestic
Gray Carthage	Domestic
Turquin (Blue Gray)	Imported
Bardiglio (Blue Gray)	Imported
Belgian Black	Imported

As the prices of the granule vary materially, it is essential for estimating purposes that the kinds of marble required be specified.

*Note:* If an impervious terrazzo surface is desired, Medusa Waterproofed White Portland Cement should be specified wherever Medusa White Portland Cement appears in these specifications.





## Terrazzo with Medusa White

The illustration above clearly shows a comparison of terrazzo made with Medusa White and with regular Gray Cement. The large section made with Medusa White shows a decided contrast with the marble chips.

The color illustrations on the opposite page show a few designs and color schemes that can be secured with Medusa White and brass dividing strips. A large selection of colored marble chips both in size and color are available and with the tinting possibilities of Medusa White, the architect can secure practically any color combination desired.



Morris Corn Residence, St. Louis, Missouri. Maritz & Young, Inc., Architects. Medusa White Portland Cement used in the terrazzo work by The Terrazzo Co., Inc., St. Louis, Missouri.



Sanctuary, St. Phillip's and James Catholic Church, Baltimore, Maryland. J. Evans Sperry, Architect. Medusa White Portland Cement used in the terrazzo work by A. Pessaro, Baltimore, Maryland.

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Lobby, 737 North Michigan Ave. Bldg., Chicago, Illinois. Rebori, Wentworth, Dewey & McCormick, Architects. Medusa White Portland Cement used in the terrazzo work by Novak Mosaic Co., Chicago, Illinois.

# A Representative List of Terrazzo Jobs Where Medusa White or Waterproofed White Was Used

Name of Job	Location	Architect	Terrazzo Contractor
The Breakers Hotel	West Palm Beach, Fla.	Schultze & Weaver New York City.	U. S. Mosaic Tile Co. Atlanta, Ga.
General Motors Research Building	Detroit, Mich.	Albert Kahn	General Mosaic Co. Detroit, Mich.
Jefferson Hotel	St. Louis, Mo.	Teich & Sullivan Chicago, Ill.	The Terrazzo Co., Inc. St. Louis, Mo.
East Hill Branch, Central Trust Co.	Cincinnati, O.	Garber & Woodward Cincinnati, Ohio.	The Shannon Co. Cincinnati, O.
High School	Lake Geneva, Wis.	J. C. Llewellyn & Son Chicago, Ill.	Lumina Terrazzo & Tile Co. Madison, Wis.
Tea Room, Shorecrest Hotel	Milwaukee, Wis.	M. Tullgren & Sons	American Marble Mosaic Co. Milwaukee, Wis.
Lobby, Milwaukee County Hospital	Milwaukee, Wis.	Van Ryn & De Gelleke	American Marble Mosaic Co. Milwaukee, Wis.
Blue Mound Country Club	Wauwatosa, Wis.	Kirchhoff & Rose Milwaukee, Wis.	American Marble Mosaic Co. Milwaukee, Wis.
State House Annex	Trenton, N. J.	J. Osborne Hunt Trenton, N. J. Hugh A. Kelley Jersey City, N. J.	American Mineral Prod. Co. Trenton, N. J.
Franklin School	Quincy, Ill.	Behrensmeier & Hafner Quincy, Ill.	Italian Marble Mosaic Co. St. Louis, Mo.
St. Mary's Hospital	Quincy, Ill.	Behrensmeier & Hafner Quincy, Ill.	The Terrazzo Co., Inc. St. Louis, Mo.
James Robertson Apt. Hotel	Nashville, Tenn.	Marr & Holman Nashville, Tenn.	Art Mosaic & Tile Co. Toledo, O.
Neisner Store	Pontiac, Mich.	J. C. Pierson Rochester, N. Y.	General Mosaic Co. Detroit, Mich.
Tenny Block	Madison, Wis.	Law, Law & Potter Madison, Wis.	Lumina Terrazzo & Tile Co. Madison, Wis.
St. Joseph Military Academy	Delafield, Wis.	Thos. S. Van Alyea Milwaukee, Wis.	Cafmeyer Bros. Milwaukee, Wis.
St. Patrick School	Racine, Wis.	Barry Byrne Co. Chicago, Ill.	U. F. Durner Co. Milwaukee, Wis.
Woman's Club Building	Racine, Wis.	Kirchhoff & Rose Milwaukee, Wis.	U. F. Durner Co. Milwaukee, Wis.
St. Phillip's and St. James' Church	Baltimore, Md.	Theo. Wells Pritch Baltimore, Md.	Andrew Pessarro Baltimore, Md.
Hutzler Bros. Restaurant	Baltimore, Md.	Theo. Wells Pritch Baltimore, Md.	Andrew Pessarro Baltimore, Md.
Gilmore Apartments	Memphis, Tenn.	W. C. Lester Memphis, Tenn.	American & Venetian Marble Co. Kansas City, Mo.
International Harvester & Service Bldg.	Detroit, Mich.	Austin Co.	General Mosaic Co. Detroit, Mich.
Eastern High School Addition	Detroit, Mich.	Malcomson, Higginbotham & Trout	General Mosaic Co. Detroit, Mich.
Burns School	Detroit, Mich.	Burrows & Eurich	General Mosaic Co. Detroit, Mich.
Bloomberg Store Building	Waukegan, Ill.	A. Epstein Chicago, Ill.	Henry Regenauer Waukegan, Ill.
Lounge Room, Y. W. C. A.	Milwaukee, Wis.	Fitzhugh Scott	American Marble Mosaic Co. Milwaukee, Wis.
Schmeichel Furniture Building	Wheeling, W. Va.	Geo. B. Cunningham Wheeling, W. Va.	A. Kutsch & Son Wheeling, W. Va.
Capital Theatre Building	Wheeling, W. Va.	C. W. Bates Wheeling, W. Va.	A. Kutsch & Son Wheeling, W. Va.
Entrance to Auditorium, Central High School	Grand Rapids, Mich.	H. H. Turner Grand Rapids, Mich.	Grand Rapids Art Terrazzo & Mosaic Co. Grand Rapids, Mich.
Union Bank of Michigan	Grand Rapids, Mich.	Grand Rapids Store Equipment Co. Grand Rapids, Mich.	Grand Rapids Art Terrazzo & Mosaic Co. Grand Rapids, Mich.
Morris Corn Residence	St. Louis, Mo.	Maritz & Young, Inc. St. Louis, Mo.	The Terrazzo Co., Inc. St. Louis, Mo.

# THE EIGHT MEDUSA PRODUCTS

## Medusa Gray Portland Cement

A standard Gray Portland Cement meeting and surpassing all requirements of the American Society for Testing Materials.

## Medusa Waterproofed Gray Portland Cement

Our standard Gray Portland Cement with the proper amount of Medusa Integral Waterproofing ground in at the mill. It is less expensive than adding Waterproofing on the job, and insures proper distribution. It should be used wherever concrete is below grade or exposed to moisture or dampness.

## Medusa-Mix, The Masonry Cement

Has a Portland Cement base combined with Aquagel for plasticity. Obtains a high early strength which is very important to the mason contractor. It has a very pleasing color when used natural or with mortar colors. It is Portland Cement Mortar in one sack; simply mix with sand and water on the job.

## Medusa Portland Cement Paint

A decorative and dampproof coating for all concrete and masonry surfaces. Can be applied on fresh concrete or wet surfaces. Furnished in White and six colors.

## Medusa White Portland Cement

A standard Portland Cement—to be used wherever Portland Cement is specified and White or colored effects are desired. It has the same strength as Gray Portland Cement. It is non-staining.

## Medusa Waterproofed White Portland Cement

Our standard White Portland Cement with the proper amount of Medusa Integral Waterproofing ground in during process of manufacture. It should be used for stucco and stone mortar and for all work subjected to damp or wet conditions. It prevents the penetration of dirt into the surface. It is non-staining.

## Medusa Waterproofing Powder

A dry powder to be added to Portland Cement. By its use, concrete is made waterproof. It is to be used where Medusa Waterproofed Gray Cement or Medusa Waterproofed White Cement is not available. Powder is shipped in forty-pound bags.

## Medusa Waterproofing Paste

A soluble paste giving the same results as the powder. It is added to the concrete mix through the gauging water. Paste is shipped in eight-pound and forty-pound containers. Also furnished in 300-pound drums.

*Note: Literature on all Medusa Products will be sent on request.*

